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Chal 0766

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19 October 1959

MEMORANDUM FOR : Chief, Operations Branch, DPD

SUBJECT : Camouflage Paint

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1. During the past two years there have been numerous attempts to verify that the camouflage paint used on the [] and [] is the best available for the purpose intended. Tests have included visual comparisons of painted and unpainted aircraft, comparison of photographs taken under various conditions and an attempt to perform a spectral analysis of the painted vehicle. Tests have been inconclusive due to variations imposed by such factors as variations in reports of individuals performing visual observations, inability to obtain sufficient photography (under a wide scope of exposure and reflectance conditions) upon which to base a positive recommendation, and the limited amount of data procurable, under proper conditions, to perform a spectral analysis.

2. The paint presently used on the U-2 is a blue-black color. During the course of previous tests, it was determined that blue tends to fluoresce or glow under most lighting conditions. During the course of spectral analysis studies on this subject, Eastman Kodak recommended a paint which they felt would possibly improve the camouflage of the U-2 at altitude. This paint is:

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a. Epoxy Flat Black air cured paint manufactured by []

b. To apply: wash aluminum first with 2 or 3 per cent phosphoric acid, rinse with water and dry surface prior to applying paint.

c. This paint is believed to have less than 5% reflectance. Reflectance could be further reduced by using phosphoric acid (b) wash after paint has dried.

3. No data is available on weight of paint per coat or on surface as pertains to skin frictions (drag) characteristics after application.

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4. Recommendations:

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a. Technical Section be authorized to contact [] to obtain specifications and data on subject paint.

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b. If data obtained looks promising, Technical Section be authorized to initiate procurement action to obtain a quantity of paint sufficient to paint one aircraft.

c. That test bed aircraft at Edwards AFB be painted with subject paint.

d. That Edwards Test Detachment perform an evaluation of the Epoxy Flat Black painted vehicle as compared with a vehicle painted with the existing paint. Test parameters on this latter recommendation will be compiled by the Technical Section.

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Chief, Technical Section

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1. One of the positive conclusions reached in the zoom climb tests conducted to determine the vulnerability of the U-2 was that the survival against the day fighter capable of zoom climbing to co-altitude is directly proportional to the attacker pilot's capability to visually sight the aircraft. These tests further indicated that the present paint configuration leaves much to be desired. The F-102 pilot stated, "Whenever requested I was able to go from my radar contact to a visual contact. The target was easily discernible as a bright gray against the dark blue sky and features such as wing shape, fuselage, profile, number of engines, etc., were detectable." There is positive confirmation that in an other use of this vehicle, it has been detected utilizing the present paint configuration. It is therefore strongly recommended that this project be given the highest priority.

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Intelligence Section

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